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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,956	07/08/2003	Victor Suen	02-6052	7138

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LSI LOGIC CORPORATION  
1621 BARBER LANE  
MS: D-106  
MILPITAS, CA 95035

EXAMINER

CRAWFORD, JASON

ART UNIT PAPER NUMBER

2819

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/614,956	<b>Applicant(s)</b> SUEN ET AL.	
	<b>Examiner</b> Jason Crawford	<b>Art Unit</b> 2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12-14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9, 12, 13 and 17-20 is/are allowed.
- 6) ☒ Claim(s) 14 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Miscellaneous***

The Applicant has cancelled claims 10, 11 and 15, therefore only claims 1-9, 12-14 and 16-20 remain for this Office Action.

### ***Response to Arguments***

Applicant's arguments with respect to claims 14-16 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al. (US 2002/0053923).

In regards to claim 14, Kim discloses of an I/O cell in Fig 3 comprising a bidirectional signal pad (11) configured for receiving a first signal (unmatched characteristic impedance signal) from a device coupled thereto and for transferring a second signal (matched characteristic impedance signal) to the device, a controller (10) for determining when the first signal (unmatched impedance signal) is to be received by the bidirectional signal pad (11) and for determining when the second signal (matched

Art Unit: 2819

signal) is to be transferred to the bidirectional signal pad (11), a dynamic switchable termination (comprised of 300a-e) switchably coupled to the bidirectional input pad (11) and coupled to the controller (10) and configured for providing a termination impedance when the I/O cell is receiving the first signal (unmatched signal), wherein the termination impedance comprises process, voltage and temperature compensated resistance (impedance termination by definition is to account for PVT variations) and wherein the dynamic switchable termination (300a-e) is switched by the controller (10) to apply the termination impedance to the bidirectional signal pad (11) when the first signal (unmatched signal) is to be received by the bidirectional signal pad (11, the impedance is applied to match the characteristic impedance), and wherein the dynamic switchable termination is switched by the controller (10) to **not** apply the termination impedance to the bidirectional signal pad (11) when the second signal (matched signal) is to be transferred by the bidirectional signal pad (11, the termination impedance is unnecessary since the characteristic impedance is already matched). (Fig 3, Paragraph 0029-0033)

In regards to claim 16, Kim discloses of the dynamic switchable termination (300a-e) comprises a logic gate (any of 310-340a-e) configured for receiving an enable signal (C2, C3 from 250a) from the controller (10) when the first signal (unmatched signal) is to be received, wherein the logic gate (any of 310-340a-e) enables the termination impedance based on the enable signal (C2, C3, when the characteristic impedance is unmatched, the controller 10 will send control signals to the switchable

Art Unit: 2819

termination 300a-e to match the characteristic impedance). (Fig 3, Paragraph 0029-0033)

### ***Allowable Subject Matter***

Claims 1-9, 12-13 and 17-20 are allowed. The following is an examiner's statement of reasons for allowance:

In regards to claims 1-8 and 17-20, the prior art does not directly disclose of an I/O cell nor a method for transceiving data comprising a bidirectional signal pad for transferring a first signal and for receiving a second signal, a duty cycle controller configured for balancing the duty cycle of the first signal with respect to a clock signal and a dynamic switchable termination coupled to the signal pad for providing a termination impedance when receiving the second signal, nor would it have been obvious to one of ordinary skill in the art to do so.

In regards to claim 9, the prior art discloses of an I/O device comprising an output signal pad, an output driver comprising first and second transistors and a duty cycle controller comprising first and second logic circuits coupled to the gates of the first and second transistors, however, the prior art does not directly disclose of the first and second logic circuits comprising flip flops, nor would it have been obvious to one of ordinary skill in the art to do so. Claims 12 and 13 are also allowed as being dependent on claim 9.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

Art Unit: 2819

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Crawford whose telephone number is 571-272-6004. The examiner can normally be reached on Monday - Friday 7am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rex Barnie can be reached on 571-272-7492. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2819

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMC

  
REXFORD BARNIE  
SUPERVISORY PATENT EXAMINER